

WHAT IS CLAIMED IS:

1. An internal combustion engine comprising:  
an engine main body including a cylinder head having intake  
ports, and a cylinder head cover;  
5 fuel injector valves disposed to be directed respectively to the  
intake ports;  
an intake manifold installed to a side surface of the cylinder head  
and outward curved to define a space between the intake manifold and  
the cylinder head; and  
10 a blow-by gas recirculation system for feeding blow-by gas  
introduced out of the cylinder head cover to each cylinder of the engine  
main body through an intake system, the blow-by gas recirculation  
system including a blow-by gas piping which extends from the cylinder  
head cover to the intake ports for the cylinders, the blow-by gas piping  
15 being accommodated within the space defined between the intake  
manifold and the cylinder head.
2. An internal combustion engine as claimed in Claim 1, wherein the  
intake manifold is formed of plastic and includes a plurality of branch  
20 sections which are contiguous with each other to form a structure like a  
partition wall, wherein the blow-by gas piping is disposed inside the  
branch sections in the longitudinal direction of the engine main body.
3. An internal combustion engine as claimed in Claim 1, wherein the  
25 fuel injector valves are installed to the cylinder head and respectively  
located above the intake ports, wherein the blow-gas piping includes a  
plurality of tip end sections which are located respectively adjacent the  
fuel injector valves and connected respectively to the intake ports.
- 30 4. An internal combustion engine as claimed in Claim 3, wherein  
each of the tip end sections for the intake ports located at opposite end

sections of the engine main body is located one-sided to center of the engine main body in the longitudinal direction of the engine main body relative to the corresponding fuel injector valve.

5        5.        An internal combustion engine as claimed in Claim 4, wherein each of the tip end sections for the intake ports located at other sections than the opposite end sections of the engine main body is located one-sided to the center of the engine main body in the longitudinal direction of the engine main body relative to the corresponding fuel  
10        injector valve.

6.        An internal combustion engine as claimed in Claim 3, wherein each tip end section of the blow-by gas piping is installed to a first boss formed integral with the cylinder head, wherein each fuel injector valve  
15        is installed to a second boss formed integral with the cylinder head, the second boss being contiguous and integral with the first boss.

7.        An internal combustion engine as claimed in Claim 3, wherein each tip end section of the blow-by gas piping is located upstream of a  
20        fuel ejection opening of the corresponding fuel injector valve with respect to gas flow within the intake port.

8.        An internal combustion engine as claimed in Claim 3, wherein the cylinder head is formed with a first elongate hole for installation of each  
25        fuel injector, and a second elongate hole for installation of each tip end section of the blow-by gas piping, the first and second elongate holes being generally parallel with each other.

9.        An internal combustion engine as claimed in Claim 1, further  
30        comprising a partition wall for dividing inside of each intake port into two axially extending air flow passages, and an intake air control valve

disposed upstream of the partition wall to control air flow of one of the air flow passages, wherein each tip end section of the blow-by gas piping is connected to the corresponding intake port at a position downstream of the intake air control valve.

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10. An internal combustion engine as claimed in Claim 1, wherein the blow-by gas piping includes a blow-by gas main pipe disposed above the cylinder head and extends in the longitudinal direction of the engine main body, and a plurality of branch pipes which extend from the

10 blow-gas main pipe and connected respectively to the intake ports.